

**Amendments to the Claims:**

Claims 1, 18, 21, 30, and 33 are currently amended. Claims 3 – 6, 9, 11, 13, 15 – 16, 20, 22 – 23, 26, 28, and 32 are previously presented. Claims 7 – 8, 10, 24 – 25, and 27 are withdrawn. Claims 2 and 14 are cancelled. Claims 12, 17, 19, 29, and 31 are original. No new  
5 matter is added by these amendments. Consideration of all amendments is respectfully requested.

**Listing of Claims:**

Claim 1 (currently amended): A method of timing utilizing an imprecise timer, the timer repeatedly triggering a reference event according to a predetermined time  
10 interval, the method comprising the steps of:  
storing a threshold value;  
storing a count value corresponding to a plurality of reference events generated from the timer;  
tracking a first actual time interval between a first reference event and a second  
15 reference event occurring after the first reference event;  
calculating a first compensation value corresponding to the predetermined time interval and the first actual time interval, the first compensation value being an integer;  
applying the first compensation value to the count value for reducing a  
20 difference between the count value and the threshold value;  
after applying the first compensation value to the count value for reducing a difference between the count value and the threshold value, determining if the count value reaches the threshold value;  
[[if]] when the count value does not reach the threshold value, tracking at least a  
25 second actual time interval to calculate a second compensation value and applying the second compensation value to the count value to further reduce the difference between the count value and the threshold value; and

generating an acknowledgement event when the count value reaches the threshold value.

Claim 2(cancelled).

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Claim 3 (previously presented). The method of claim 1 wherein the step of if the count value does not reach the threshold value, tracking at least a second actual time interval further comprises tracking actual time intervals between every two adjacent reference events.

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Claim 4 (previously presented). The method of claim 3 wherein the step of tracking actual time intervals between every two adjacent reference events further comprises utilizing a reference clock for computing a time value corresponding to the actual time interval between every two adjacent reference events, and resetting the time value before the reference clock starts tracking the first actual time interval between the first reference event and the second reference event.

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Claim 5 (previously presented). The method of claim 1 wherein the step of calculating a first compensation value further comprises determining the first compensation value by calculating a ratio of the first actual time interval to the predetermined time interval.

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Claim 6 (previously presented). The method of claim 5 wherein the step of calculating a first compensation value further comprises utilizing an integer closest to the ratio to be the compensation value for the first compensation value.

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Claim 7 (withdrawn). The method of claim 5 wherein the compensation value is a floating point value, and records the ratio of the actual time interval to the

predetermined time interval.

5           Claim 8 (withdrawn). The method of claim 1 wherein an initial value of the threshold value is greater than an initial value of the count value, and the step of utilizing the compensation value for reducing the difference further comprises increasing the count value and reducing the threshold value for reducing the difference by the compensation value.

10           Claim 9 (previously presented). The method of claim 1 wherein an initial value of the threshold value is greater than an initial value of the count value, and the step of utilizing the first compensation value for reducing the difference further comprises adding the first compensation value to the count value without adjusting the threshold value for reducing the difference by the first compensation value.

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          Claim 10 (withdrawn). The method of claim 1 wherein an initial value of the threshold value is less than an initial value of the count value, and the step of utilizing the compensation value for reducing the difference further comprises decreasing the count value and increasing the threshold value for reducing the difference by the compensation value.

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          Claim 11 (previously presented). The method of claim 1 wherein an initial value of the threshold value is less than an initial value of the count value, and the step of utilizing the first compensation value for reducing the difference further comprises subtracting the first compensation value from the count value without adjusting the threshold value for reducing the difference by the first compensation value.

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Claim 12 (original). The method of claim 1 wherein the reference events are system interrupts.

5        Claim 13 (previously presented). A method of timing utilizing an imprecise timer, the timer repeatedly triggering a reference event, the method comprising the steps of:  
of:  
storing a threshold value and a count value;  
tracking at least a first actual time interval between first reference event and a  
second reference event occurring after the first reference event, and  
10        selectively tracking a plurality of actual time intervals according to the count value;  
dynamically updating the count value according to a first value corresponding to the first actual time interval;  
after dynamically updating the count value according to the first value,  
15        determining if the count value reaches the threshold value;  
if the count value does not reach the threshold value, tracking at least a second actual time interval to calculate a second value corresponding to the second actual time interval and dynamically updating the count value according to the second value; and  
20        generating an acknowledgement event when the count value reaches the threshold value.

Claim 14 (cancelled).

25        Claim 15 (previously presented). The method of claim 13 wherein the step of if the count value does not reach the threshold value, tracking at least a second actual time interval further comprises tracking actual time intervals between every two adjacent reference events.

Claim 16 (previously presented). The method of claim 15 wherein the step of tracking  
actual time intervals between every two reference events further comprises  
utilizing a reference clock for computing a time value corresponding to the  
actual time interval between every two adjacent reference events, and resetting  
the time value before the reference clock starts tracking the first actual time  
interval between a first reference event and a second reference event.

Claim 17 (original). The method of claim 13 wherein the reference events are system  
interrupts.

Claim 18 (currently amended). A timer system comprising:

an imprecise timer for repeatedly triggering a reference event according to a  
predetermined time interval;

a first storage unit for storing a threshold value;

a second storage unit for storing a count value corresponding to a plurality of  
reference events generated from the timer;

a tracking module electrically connected to the timer for tracking at least a first  
actual time interval between a first reference event and a second reference  
event occurring after the first reference event, and selectively tracking a  
plurality of actual time intervals according to the count value;

a calculating module electrically connected to the tracking module for  
calculating a plurality of compensation values, each compensation value  
corresponding to the predetermined time interval and one of the actual time  
intervals; and

a compensating module electrically connected to the calculating module and at  
least one of the first and second storage units for reducing a difference  
between the count value and the threshold value utilizing at least a first each

compensation value, corresponding to the first actual time interval between the first reference event and the second reference event;

wherein if the count value reaches the threshold value, the tracking module stops tracking, and if the count value does not reach the threshold value the tracking module tracks a second actual time interval between the second  
5 reference event and a third reference event.

Claim 19 (original). The timer system of claim 18 further comprising a decision logic electrically connected to the first and second storage units for generating an  
10 acknowledgement event if the count value reaches the threshold value.

Claim 20 (previously presented). The timer system of claim 19 wherein the first and second storage units, the calculating module, compensating module, and the decision logic are positioned within a microprocessor, and the timer is driven by  
15 the microprocessor.

Claim 21 (currently amended). The timer system of claim 18 wherein the tracking module comprises a clock generator for serving as a reference clock, and the tracking module utilizes the reference clock for computing a time value corresponding to  
20 the actual time interval between ~~every two~~ adjacent reference events, and resets the time value before the reference clock starts tracking the first actual time interval between the first reference event and the second reference event.

Claim 22 (previously presented). The timer system of claim 18 wherein the compensating  
25 module determines each compensation value by calculating a ratio of one of the actual time intervals to the predetermined time interval.

Claim 23 (previously presented). The timer system of claim 22 wherein the compensating

module utilizes an integer closest to the ratio to be each compensation value.

5           Claim 24 (withdrawn). The timer system of claim 22 wherein the compensating module  
            utilizes a floating point value to be the compensation value for recording the  
            ratio of the actual time interval to the predetermined time interval.

10          Claim 25 (withdrawn). The timer system of claim 18 wherein an initial value of the  
            threshold value is greater than an initial value of the count value, and the  
            compensating module increases the count value and reduces the threshold value  
            for reducing the difference by the compensation value.

15          Claim 26 (previously presented). The timer system of claim 18 wherein an initial value of  
            the threshold value is greater than an initial value of the count value, and the  
            compensating module adds each compensation value individually to the count  
            value without adjusting the threshold value for reducing the difference by each  
            compensation value.

20          Claim 27 (withdrawn). The timer system of claim 18 wherein an initial value of the  
            threshold value is less than an initial value of the count value, and the  
            compensating module decreases the count value and increases the threshold  
            value for reducing the difference by the compensation value.

25          Claim 28 (previously presented). The timer system of claim 18 wherein an initial value of  
            the threshold value is less than an initial value of the count value, and the  
            compensating module subtracts each compensation value individually from the  
            count value without adjusting the threshold value for reducing the difference by  
            each compensation value.

Claim 29 (original). The timer system of claim 18 wherein the reference events are system interrupts of the timer system.

Claim 30 (currently amended). A timer system comprising:

- 5           an imprecise timer for repeatedly triggering a reference event;  
          a first storage unit for storing a threshold value;  
          a second storage unit for storing a count value;  
          a tracking module electrically connected to the timer for tracking at least a first  
          actual time interval between a first reference event and a second reference  
10           event occurring after the first reference event, and selectively tracking a  
          plurality of actual time intervals according to the count value; and  
          a calculating module electrically connected to the tracking module for  
          dynamically updating the count value according to at least a first value  
          corresponding to the first actual time interval;  
15           wherein if the count value reaches the threshold value, the tracking module stops  
          tracking, and if the count value does not reach the threshold value, the  
          tracking module tracks a second actual time interval between the second  
          reference event and a third reference event.

- 20    Claim 31 (original). The timer system of claim 30 further comprising: a decision logic  
          electrically connected to the first and second storage units for generating an  
          acknowledgement event if the count value reaches the threshold value.

- Claim 32 (previously presented). The timer system of claim 31 wherein the first storage  
25           unit, the second storage unit, the calculating module, and the decision logic are  
          positioned within a microprocessor, and the timer is driven by the  
          microprocessor.



5      Claim 33 (currently amended). The timer system of claim 30 wherein the tracking module comprises a clock generator for generating a reference clock, and the tracking module utilizes the reference clock for computing a time value corresponding to the actual time interval between ~~every two~~ adjacent reference events, and resets the time value before the reference clock starts tracking the first actual time interval between a first reference event and a second reference event.

Claim 34 (original). The timer system of claim 30 wherein the reference events are system interrupts of the timer system.

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